New FDO Data Providers and Maestro

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Images created in 3ds Max®, Maya®, and AliasStudio™

Image courtesy of Magna Steyr Design
Open Source Geospatial Foundation

Web Mapping
- degree
- Mapbender
- MapBuilder
- MapGuide Open Source
- MapServer
- OpenLayers

Geospatial Libraries
- FDO
- GDAL/OGR
- GEOS
- GeoTools

Desktop Applications
- GRASS GIS
- OSSIM
- Quantum GIS
- gvSIG

Metadata Catalog
- GeoNetwork
- Interoperability
- FDO Architecture
- New FDO Data Providers
- New Open Source Development Tool: Maestro
Challenge: Interoperability
### Challenge: Interoperability

**GITA Annual Technology Survey**

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of utilities surveyed</th>
<th>Proportion with more than one GIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>187</td>
<td>NA</td>
</tr>
<tr>
<td>2003-2004</td>
<td>204</td>
<td>1/3 - 1/2</td>
</tr>
<tr>
<td>2005</td>
<td>294</td>
<td>60%</td>
</tr>
<tr>
<td>2006</td>
<td>386</td>
<td>70%</td>
</tr>
</tbody>
</table>
Challenge: Interoperability

Perhaps we need a Format Non-Proliferation Treaty!
Architectures for Interoperability
Loosely Coupled
Open Web Services

Open Protocols

- HTTP, HTML, XML (W3C)
- SOAP, WSDL, UDDI (W3C)
- REST
- Javascript (ecma)

Open Spatial Web Services (OGC)

- WMS
- WFS
- GML
Tightly Coupled

- CRM
- JDBC
- ERP
- JDBC
- Engineering Design (CAD)
- ODBC
- Outage Management
- Asset Management
- JDBC
- Spatially-enabled RDBMS
- SQL
- ODBC
- Records (GIS)
- ODBC
- Workflow Management
OGC Simple Feature Spec for SQL

OGC SFS
- Points, lines, closed polygons,…

OGC SFS Extensions (Adopted 2007)
- Cartographic text

Future?
- Feature Stylization
- Metadata
- Linear topology
- Polygon topology
- Linear referencing systems
- Long transactions
Alternatives for Interoperability

- Loosely coupled
  - Web access to existing (legacy) data sources

- Tightly coupled
  - *Single point of truth*
  - High performance
  - Spatially-enabled RDBMS
Open Source Platform for Interoperability
Open Source Mapping Platform for Data Sharing

Spatially-enabled CAD Desktop

Fusion
MapGuide
Open Source

Feature Data Object API

SDF
Shape
ArcSDE
MySQL
Oracle Spatial
MapGuide OS and FDO Statistics

March 2006 to June 2008

- MapGuide OS
  - 74,000 source code downloads

- FDO
  - 44,500 source code downloads
  - Many data providers developed by 3rd party contributors
Autodesk Contributions to OSGEO

MapGuide Open Source Web Mapping Platform
mapguide.osgeo.org

FDO Data Access Technology
fdo.osgeo.org

Coordinate System Library
metacrs.osgeo.org

• 3 Autodesk contributions
• Community contributions
• Unlocking Spatial data access and democratizing coordinate system library

• Free Source Code
• Free Documentation
• Multiple APIs: .Net, C++, PHP, Java
FUSION

- Customizable library of web mapping tools and controls
- Created through open source
- Developed by DM Solutions

MapGuide Open Source layout…

… and with Fusion
FDO: Geospatial Data Access Technology

Autodesk Products

Autodesk Certified Providers

- ODBC
- Raster
- ArcSDE
- 15+ raster formats
- Oracle and SQL-Server

Providers from 3rd Party & Open Source

- OGR
- GDAP
- 150+ vector and raster formats
- 25+ vector formats
- 25+ raster formats

Providers supporting multiple formats

- MS Access, Excel and Oracle
- 15+ raster formats

Providers supporting single format

- SDF
- SHP
- SQL Server 2005
- SQL Server 2008
- WMS
- GE Energy
- Oracle
- Smallworld
- SuperMap
- PostGIS
- Oracle Dynamic Server
- Informix Dynamic Server
- KML

Autodesk and Oracle and SQL-Server

MS Access, Excel and Oracle

Oracle and SQL-Server

25+ vector formats

25+ raster formats

Autodesk Certified Providers

Providers from 3rd Party & Open Source
New FDO Data Providers

- Announced yesterday at FOSS4G Capetown
- Autodesk FDO Providers
  - FDO Data Provide for GE Smallworld
  - FDO Provider for Microsoft SQL Server 2008
    - Will be available as open source project on OSGEO
- Community FDO data providers
  - IBM Informix
  - KML
  - PostGIS
Web Application Development Tools
Development Tools

- **MapGuide Studio**
  - Closed source commercial product developed and supported by Autodesk
  - Desktop development application
  - Supports Autodesk proprietary formats: DWG and DWF in addition to FDO data sources

- **Web Studio**
  - Web-based
  - Open Source
  - Developed by DM Solutions
Maestro

- Consensus in OSGEO community that there was not longer active development for Web Studio

- Developed by Kenneth Skovhede, Geograf, Denmark
- Web-based MapGuide OS application development tool
- Written in C# for .Net, runs with Mono on Linux
- Targetted on developers
- Supports 70-80% of MapGuide Studio functionality
  - Supports FDO data sources (does not support Autodesk proprietary formats)
  - Also supports additional functionality, for example scans a directory for map tiles

- Source available at www.osgeo.org/mapguide
Summary

- **MapGuide Open Source/FDO** – Open source platform for interoperability

- New FDO data providers from Autodesk and 3rd parties

- **Maestro** provides a web-based open source web application development platform.
Designing for a sustainable future